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Presentation to

Inland Waters User's Board

Mississippi River Valley Division Prioritized Backlog Maintenance

by
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Goal;

Develop a prioritized list of all Mississippi River Valley Division, MVD, backlog maintenance.

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Task Process

1. Identify backlog items.
2. Establish weighted parameters for evaluation.
3. Regional team evaluation of backlog items
4. Review, adjust, finalize

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Team Members

MVD – Steve Jones & James Hannon

New Orleans – Jim Gautreaux & Jerald Barbe

Vicksburg – Jim Coldiron & Mike O'neal

Memphis – Ken Bright & Jennifer Thomas

St. Louis – Alan Brandt

Rock Island – Dennis Shannon

St. Paul – Amy Rothstein & Leon Mucha

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Prioritized Backlog Maintenance Team's Concept

Team product to be a "Meat & Potatoes" tool for future use rather than a vision

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Prioritized Backlog Maintenance Team Actions

- Feb 9 – Apr 6 Team had nine telecoms
- Mar 3 – Team agreed upon scheduled milestones to conclude with Apr 18-20 prioritization session at the Engineer Research & Development center, ERDC, in Vicksburg, MS
- With some minor slippage of interim target dates, the team was able to meet Apr 18 target for start of ERDC session.

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Identify Backlog Items

- Defined “backlog” as maintenance projects to “fix” navigation facilities that were not completed on Oct. 1, 2005 with cost >$100,000.
- Maintenance funded annually (i.e. dredging, bare bones maintenance) is not included on list.

- Started with unfunded FY06 budget submittal packages – added, removed, and adjusted as necessary.
- Final list has 373 items totaling $908 million.

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Establish Weighted Parameters

Determination of parameters to use considered;

- Civil Works budget performance measures
- Service to Stakeholders
- What others have used (i.e. Great Lakes & Ohio River Division, LRD)
- Safety

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Establish Weighted Parameters

The establishment of parameters and weights has been a continuous and evolving activity. The end product included three tiers of weights;

1. Criticality had weight of up to 75 based upon risk of failure and consequences of failure upon navigation business function.

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Establish Weighted Parameters

2. Traffic measures maximum weight totaled 30 with max weight of 21 for tons and of 9 for number of lockages.
3. Seven other parameters had maximum weights ranging from 3 to 10; District Rank (5), Navigation Benefit (10), Environmental Benefit (5), Unfunded Duration (3), Construction Impact (5), Inland Waterways Trust Funds (5), Safety Benefit (5)

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Regional Team Evaluation

The on-site evaluation process was;

1. PowerPoint slide with photo and brief description of each task shown.
2. District representative explained task and answered questions
3. Each District evaluated task for five parameters (the other six parameters were provided in advance)
4. ExpertChoice averaged the six responses.

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Regional Team Evaluation

ERDC provided ExpertChoice evaluation software and hardware. This exercise used a very small portion of the software's capability. The advantage provided to this exercise was that it greatly enhanced efficiency by instantaneously gathering and tabulating the data as the team performed evaluations.

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Regional Team Evaluation

The maximum weight possible is 143. The evaluation resulted in total weights ranging from 111.4 for LD27 lift gate leafs to 28.1 for restoration of road between the two St Anthony Falls locks.

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Review, Adjust, Finalize

MVD distributed the team's products to the six Districts for review and to develop agreement.

The process will continue to evolve. The prioritized list will be a living document reflecting changes to the Mississippi River Valley Division's needs over time.

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FY08 Ten Highest Priority Tasks

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LD 27 - Replace Lift Gate Leaves - IWTF

Purchase and installation of lift gate leaf, downstream section in both lock chambers. The downstream lift gate leaves have experienced accelerated wear deterioration due to the high number of loading cycles.

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LD 27 - Rehabilitate Culvert Valves - IWTF

The culvert valves have deteriorated due to corrosion and wear from usage. Valve bodies will be pulled from culverts, structurally repaired and painted. P&S will permit limited daylight closures to lock chambers.

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LD 18 Dam Concrete Repairs

Condition of dam concrete has degraded dramatically over the past 5 years. Serious cracking and loss of material exists throughout much of the dam superstructure. The present condition of Dam 18 reminds some of old Lock 26 before the foundation began to shift and major problems surfaced.

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LD 3 - Outdraft Correction - IWTF

LD3's outdraft current sweeps towboats and barges away from the lock toward the dam. The outdraft has resulted in 11 incidents since 1968 when tows collided with the dam. This package is for completion of Design Report and P&S for a 962 ft guidewall extension and channel modifications.

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LD 21 Miter Gate Replacement

After nearly 70 years, numerous cycles during both normal and ice conditions, and numerous tow impacts, and numerous repairs, the miter gates have experienced metal fatigue which is beyond repair. The only reasonable action has become total replacement of all components, i.e. new gates.

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LD 3 - WI Embankments Rehabilitation - IWTF

The LD3 embankments are a combination of natural river levee low ground, spot dikes and filled areas. It is the most physically vulnerable navigation dam on the Upper Mississippi River. This package includes completion of a Design Report, preparation of Plans and Specifications, and the initial phase of construction

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LD 27 – Rehabilitate Culvert Valve Machinery - IWTF

The culvert valves machinery needs to be removed and replaced with newer generation equipment. Plans & Specifications will permit limited daylight closures to lock chambers.

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Lockport Approach Dike Repairs

Many sink holes have developed with only temporary fixes made. A cut-off wall is required to ensure continued structural integrity for continued retention of navigation pool, safe access to hydropower plant, and maintenance of critical ecosystems adjacent to the dike.

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LD 11 Dam Rehabilitation - IWTF

This project consists of replacing dam gate chains, replacing deteriorated concrete in the bulkhead recess areas and on the dam bridge piers, replacing dam electrical equipment and wiring, structural steel repairs. It also includes sandblasting and painting the dam gates and service bridge.

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LD 11 Lock Rehabilitation - IWTF

This is the only 1930's vintage lock on the Mississippi River that has not already been updated through the rehabilitation program. Major work items include lock chamber resurfacing, replacement of lock machinery and the entire site electrical system.

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Inland Waters Users Coordination

It is requested and encouraged that Inland Waters Users Board review the MVD prioritization concept and provide feedback to be incorporated as the process evolves.

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Questions??